

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (previously presented) A method of fabricating a microfluidic device, comprising:

providing a first substrate layer;  
fabricating an alignment structure in a surface of the first substrate layer;  
aligning a tool with the alignment structure; and  
forming an aperture in the first substrate layer with the tool.

2. (currently amended) The method of claim 1, wherein the first substrate layer comprises a silica-based substrate and the alignment structure is etched into a the first surface of the first substrate.

3. (withdrawn) The method of claim 1, wherein the first substrate layer comprises a polymeric substrate and the alignment structure is embossed onto the first surface of the first substrate.

4. (withdrawn) The method of claim 1, wherein the first substrate comprises a polymeric substrate and the alignment structure is injection molded onto the first surface of the first substrate.

5. (previously presented) The method of claim 1, wherein the tool comprises a drill.

6. (previously presented) The method of claim 1, wherein the aperture is configured to receive a capillary element.

7. (previously presented) The method of claim 1, further comprising mating a second substrate layer with the first substrate layer.

8. (previously presented) The method of claim 7, wherein the second substrate layer comprises an aperture being positioned to correspond with the aperture in the first substrate layer when the first and second substrate layers are mated together.

9. (currently amended) The method of claim 7, wherein a capillary element is inserted into the aperture in the ~~second~~first substrate layer when the first and second substrate layers are mated.

10. (withdrawn) A method of fabricating a multilayered microfluidic device, comprising:

providing a first notch in the edge of a first substrate layer;

providing a second notch in the edge of a second substrate layer, the first and second notches being positioned so that the first and second notches circumscribe a single opening when the first and second substrate layers are mated together;

inserting an alignment key into the single opening, the alignment key being configured to fit into the single opening when the first and second substrate layers are mated together and aligned in a first relative position; and

mating and bonding the first substrate layer to the second substrate layer in the first relative position.

11. (withdrawn) The method of claim 10, wherein the first and second notches are rectangular.

12. (withdrawn) The method of claim 11, wherein the one of the first and second substrate layers comprises a groove fabricated into a surface thereof, the groove terminating in one of the first or second notches, and wherein the alignment key comprises a capillary element.

13. (withdrawn) The method of claim 11, wherein the capillary element comprises a rectangular capillary having a capillary channel disposed therethrough.